Notice of Allowability	Application No.	Applicant(s)	
	09/617,637	VINCENT ET AL.	
	Examiner	Art Unit	
	Tam (Jenny) Phan	2144	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *09/03/2004*.

2. ☒ The allowed claim(s) is/are *1-7,10,12-16 and 19*.

3. ☒ The drawings filed on *17 July 2000* are accepted by the Examiner.

4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☒ All b) ☐ Some* c) ☐ None of the:
      1. ☒ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date *09302004* .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

WILLIAM A. CUCHLINSKI, JR.
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

DETAILED ACTION

1. This application has been examined. Amendment received on 09/03/2004 has been entered. Claim 1 is amended. Claims 2-20 are previously presented.

2. Claims 1-20 are examined.

EXAMINER'S AMENDMENT

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Gregory M. Doudnikoff (Registration No. 32,847) on 09/29/2004.

4. The application has been amended as follows:

7. (Presently Amended) A gateway for demultiplexing connections from a first system to a second system, the gateway comprising:

internal processes which are selectively connected to implement ~~the~~ a demultiplexing function of the gateway; , ~~the gateway comprising a wait queue; the~~

a wait queue for providing a buffering function for both the connections between the first system and the second system and for ~~the~~ connections between the internal processes, wherein the connections between the first and second system are TCP/IP socket pairs and the connections between the internal processes are domain socket pairs and wherein the wait queue is implemented by a domain socket pair.

8. (Canceled)

9. (Canceled)

10. (Currently Amended) A computer system for demultiplexing a set of TCP/IP inbound connections to a set of outbound connections, the computer system comprising:

a plurality of scheduler processes for providing TCP/IP inbound connections to agent processes for establishing corresponding outbound connections, the scheduler processes and the agent processes communicating by domain socket pairs in the computer system, each scheduler process having a dedicated domain socket pair for receiving a TCP/IP inbound connection endpoint, the domain socket pairs for communication to the agent processes being available from a pool of domain sockets; and

a wait queue implemented as a domain socket pair, the wait queue receiving a TCP/IP inbound connection endpoint where no agent process is available for implementing the TCP/IP inbound connection and from which non-empty wait queue an available agent process will remove a TCP/IP inbound connection endpoint to establish a TCP/IP inbound connection and an outbound connection.

11. (Canceled)

16. (Currently Amended) A computer program product for use with a computer comprising a central processing unit and random access memory, said computer program product comprising a computer usable medium having computer readable code means embodied in said medium providing a gateway for demultiplexing connections from a first system to a second system, said computer program product comprising:

computer readable program code means for implementing internal processes in the gateway which are selectively connected to implement the demultiplexing function of the gateway, and

computer readable program code means for implementing a wait queue, the wait queue providing a buffering function for both the connections between the first system and the second system and for the connections between the internal processes, wherein the connections between the first system and the second system are TCP/IP socket pairs and the computer readable program code means for implementing the connections between the internal processes implements such connections by using domain socket pairs, and wherein said computer readable program code means for implementing a wait queue uses a domain socket pair to implement the wait queue.

17. (Canceled)

18. (Canceled)

19. (Currently Amended) A computer program product for use with a computer comprising a central processing unit and random access memory, said computer program product comprising a computer usable medium having computer readable code means embodied in said medium providing a computer system for demultiplexing a set of TCP/IP inbound connections to a set of outbound connections, said computer program product comprising:

computer readable program code means for implementing a plurality of scheduler processes for providing TCP/IP inbound connections to agent processes for establishing corresponding ~~Outbound~~ outbound connections, the scheduler processes and the agent processes communicating by domain socket pairs in the computer system, each scheduler process having a dedicated domain socket pair for receiving a TCP/IP inbound connection endpoint, the domain socket pairs for communication to the agent processes being available from a pool of domain sockets; and

computer readable program code means for implementing a wait queue implemented as a domain socket pair, the wait queue receiving a TCP/IP inbound connection endpoint where no agent process is available for implementing the TCP/IP inbound connection and from which non-empty wait queue an available agent process will remove a TCP/IP inbound connection endpoint to establish a TCP/IP inbound connection and an outbound connection.

20. (Canceled)

RESPONSE TO ARGUMENTS

5. Applicant's arguments see Amendment pages 9-16, filed 09/03/2004, have been fully considered and are persuasive. The rejections of claims have been withdrawn.

REASONS FOR ALLOWANCE

6. Claims 1-7, 10, 12-16, and 19 are allowed.

7. The claimed invention involves a computer system for providing a gateway between a transaction manager for managing database transactions wherein the gateway provides

communication of tightly coupled XA transactions to a server hosting a DBMS by making efficient use of domain socket pairs to implement demulitplexing in the gateway. The computer system includes a listener process for receiving inbound connection requests the transaction manager, a set of gateway agents for establishing connections, a logical scheduler for managing sets of logical agents wherein each logical agent has an associated inbound connection identifier, a wait queue for storing the logical agent and its connection identifier, a selected gateway agent for removing a logical agent and its connection identifier from the queue when the selected gateway is available and the wait queue is not empty, the selected gateway agent utilizes the connection identifier information to establish a connection to the transaction manager, and the selected gateway also establishes a connection to the server to implement the logical agent. In addition, the computer system is implemented in a **UNIX**^{tm}-based environment in which the connections to the transaction manager are TCP/IP socket pairs wherein the passing of logical agents and associated inbound connection endpoint identifiers is implemented by the use of domain socket pairs in the gateway.

8. The following is an examiner's statement of reasons for allowance: the limitation of a gateway having an available selected gateway agent removes a logical agent and its associated inbound connection identifier from the non-empty wait queue; and for each logical agent removed from the wait queue, the selected gateway agent establishes a connection to the transaction manager as defined by the connection identifier and establish a connection to the server to implement the logical agent (defined in the present specification per Page 2 lines 5-20, Page 6 lines 6-17, Page 7 lines 3-12, Page 11 lines 6-14 and per Figure 2) was not taught or

suggested by the prior art of record in combination with the other limitations of the independent claims.

9. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tam (Jenny) Phan whose telephone number is (703) 305-4665 or (571) 272-3930 (new telephone number after October 18, 2004). The examiner can normally be reached on M-F 9:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Cuchlinski can be reached on 703-308-3873 or (571) 272-3925 (new telephone number after October 27, 2004). The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

William Cuchlinski
SPE
Art Unit 2144
703-308-3873

tp
September 29, 2004